



## EXPLANATION

## ROCK UNITS

Rock units are cumulative. Patterns for area of given tectonic element represent youngest rock unit deposited in that area.

## Quaternary

Essentially Quaternary rocks in land basins and coastal plains. Includes exposures of Tertiary rocks in marginal areas where they have been exposed by erosion or by Tertiary rocks beneath Quaternary deposits. Underlying units shown by appropriate color where age may be inferred.

## Tertiary

Eocene strata in most areas, where Quaternary deposits are thin or absent. Later Tertiary rocks included in a few areas. Otherwise pre-Eocene units shown in color where age may be inferred.

## K3

Upper part of the Cretaceous, and older rocks of Mesozoic age. Younger known Mesozoic rocks are often Cretaceous. Although present regionally, Cretaceous definitely known only in the Brooks Range, the Yukon Flats, and the Kuskokwim. Not found evidence lacking because of nonmarine deposition or lack of detailed field studies.

## K2

Middle part of Cretaceous, and older Mesozoic rocks. Younger known Mesozoic rocks are often Cretaceous. Although present regionally, Cretaceous definitely known only in the Brooks Range, the Yukon Flats, and the Kuskokwim. Not found evidence lacking because of nonmarine deposition or lack of detailed field studies.

## K1

Lower part of the Cretaceous, and older Mesozoic rocks. Younger known Mesozoic rocks are early Neogene.

## bc

**Basement complex**  
Rocks of Paleozoic and (or) Precambrian age. Includes Triassic and younger igneous bodies of Archaean and (or) Early Cretaceous age; many are batholiths dimensions.

## Ic

**Intrusive rocks\***

Age indicated by letter where known or inferred. D: Devonian; J: Middle or Late Jurassic; K: Early Cretaceous; Ju: Upper Cretaceous; Q: Paleogene; T: Tertiary; M: rocks of unknown age.

## Extrusive rocks\*

Floes and pyroclastic deposits of Cenozoic age. Qv and Qt: includes volcanic rocks of Tertiary and (or) Mesozoic age in Aleutian Islands, Alaska.

## \* Shown only in Alaska

## ABBREVIATIONS

- T: Trough
- J: Jurassic
- Jl: Lower Jurassic
- Jm: Middle Jurassic
- Ju: Upper Jurassic
- K: Cretaceous
- K1: Lower part of Cretaceous
- K2: Middle part of Cretaceous
- K3: Upper part of Cretaceous

## TECTONIC ELEMENTS

Age, in parentheses, of negative elements refers to time of subsidence and to age of sediments accumulated during that time. Age, in parentheses, of positive elements refers to time of erosion or little or no accumulation of sediments.

1. Arctic plain (Cenozoic, W, J, K1)
2. Arctic coastal plain (Cenozoic)
3. Beaufort shelf (K3 and Cenozoic)
4. Kotzebue arch (Mesozoic)
5. Colville geanticline (K, J, K1 and K2)
6. Umati basin (K3 and Paleogene?)
7. Chukchi basin (K3 and Paleogene?)
8. Norton basin (Cenozoic)
9. Ruby geanticline (J) and K
10. Romanzof uplift (Tertiary?)
11. Norton arch (K3 and Paleogene)
12. Kobuk trough (K1 and K2)
13. Coleen trough (Eocene)
14. Seward trough (Mesozoic)
15. Yukon-Kuskokwim geosyncline (K1 and K2; possibly W and J)
16. Hogatz arch (K2 and K3)
17. Galena basin (Cenozoic)
18. Norton arch (Cenozoic)
19. Norton basin (Cenozoic)
20. Ruby geanticline (J) and K
21. Norton arch (Cenozoic)
22. Yukon Flats basin (Cenozoic)
23. Lower Tanana basin (Cenozoic)
24. Middle Tanana basin (Cenozoic)
25. Bethel basin (Cenozoic)
26. Kuskokwim geosyncline (K, J, K1 through K3)
27. Goodnews arch (K2 and K3)
28. Norton arch (K3 and Paleogene)
29. Kandik segment (of 28) (K, J), K1 and K2
30. Nation arch (K or Tertiary)
31. Nushagak basin (Cenozoic)
32. Tanana geanticline (J and K)
33. Coast Ranges geanticline (J and K)
34. Healy trough (Tertiary?)
35. Tanana trough (Cenozoic)
36. Middle Tanana basin (Cenozoic)
37. Minchima basin (Cenozoic)
38. Alaska Range geosyncline (K, J, K1 through K3)
39. Nutzotin segment (of 38) (K, J, K1 through K3)
40. Cook Inlet basin (Cenozoic)
41. Chugach Mountains (K, J, K1)
42. Nushagak basin (Cenozoic)
43. Talkeetna geanticline (Jm, Ju, K1 through K3)
44. Prince William geanticline (Jm, Ju, K1 through K3)
45. Copper River geanticline
46. Admiralty trough (Eocene)
47. Matanuska geosyncline (K, J, K1 through K3, and Paleogene)
48. Shishaldin trough (Tertiary)
49. Cook Inlet basin (Cenozoic)
50. Chugach Mountains (Jm, Ju, K1 through K3?)
51. Chugach Mountains (K2?)
52. Greenstone-gray wacke-slate sequence of Mesozoic age (K2?)
53. Yakataga geosyncline (Tertiary)
54. Middleton shelf (Tertiary)
55. Shumagin shelf (Tertiary?)
56. Aleutian trench (Tertiary?) and Quaternary

## Topographic basin

Known or inferred to be result of Cenozoic tectonic movement

Boundary of tectonic element  
Quoted where doubtful

Geanticline or arch

Indicating generally positive, elongate, and foliation

Arrow indicates direction of plunge. Quoted where doubtful

Geosyncline or trough

Indicating general trend of folds, faults, cleavage, and foliation

Arrow indicates direction of plunge. Quoted where doubtful

Uplift

Large positive element that was either uplifted and a source of sediment or was an area of little or no subsidence flanked by belts of relatively old rocks flanked by belts of younger rocks.

UpLift: Similar to geanticline but not as extensive in form.

Geosyncline: A large linear negative element in which sediments accumulate, flanked by belts of relatively young rocks flanked by belts of older rocks.

Trough: Similar to geosyncline but not as extensive.

Basin: Similar to geosyncline but nonlinear in form.

Platform: A shieldlike element that was either emergent or subsided little, resulting in a large area of relatively little accumulation.

Slope: A steeply dipping surface that is thrust upward into an ocean.

Geosynclinal segment: A part of a geosynclinal trend that is separated from the main geosynclinal axis by uplifted older rocks.

1955 MAGNETIC DECLINATION AT SOUTH EDGE OF SHEET VARIES FROM 24° TO 27° E

